

mining method for predicting risk factors. In addition, the predictive powers for the two methods were compared to demonstrate the effectiveness of data mining in analyzing a large data set. In the analysis, 293,144 workers in 200 workplaces from the 2007 health examination data were analyzed for two chronic diseases: hypertension and diabetes. The results showed that smoking and exercise were important factors influencing these chronic diseases. Specifically, smoking, exercise, and age between 45 and 54 were significant factors for hypertension, while smoking, exercise, and job type (office work or production work) were significant factors for diabetes. In contrast to previous studies, decision tree analysis gave more accurate results than logistic regression in predicting hypertension and diabetes, showing that data mining can be a useful analytic tool for predicting chronic diseases. Further, it provides segment-specific information on risk factors to support WHP for the specific target group.

OT23-7

Water-Related Environmental Health Problems in Bangladesh

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Background: Bangladesh, a hugely populated, riverine country and the largest delta in the world, is gradually facing tremendous adverse consequences of water-related problems. Objective: This paper aims to articulate the common health problems with evidence and case studies in relation with water. Materials and methods: Ample scientific articles including case studies, newspaper articles, social reports and discussion were reviewed.

Result: Rainfall, high or low, is interlinked with instigation of diseases like malaria, dengue or hepatitis. There are complex relationships with problems of water quality, availability, sanitation, and hygiene. Extreme weather—floods or droughts-- increase the risk. Decrease in water supplies lower the efficiency of local sewerage systems and increase concentration of pathogenic organisms. Diarrheal diseases have two peaks-- pre and post monsoon. Cholera cases are reported mainly in the warmest season. Arsenic is another threatening problem. Floods are the most common natural disaster, specially of 1974, 1988, 1998 and 2004. With climate change, rainfall and sea level rise are expected to increase the frequency and intensity of floods. Flood-related injuries and mental problems are increasing. Other problems includes keratitis, skin diseases and helminthiasis. Besides, poor agriculture, salinity intrusion, drainage congestion, cyclone and storm surge and draught; in turn affecting health.

Conclusion: Safe water is in MDGs and a basic human right. Water and sanitation problems needs proper care and support to achieve a sustainable development.

OT23-8

The Blood Lead Concentration and Hemoglobin Level of Gasoline Station Worker in Makassar City, Indonesia

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The study aim to analyze the correlation of blood lead concentration and hemoglobin level. Age, working duration and exposure time, smoking habit, and consuming canned drink are thought as the contributing factors of blood lead concentration. The study was cross sectional study was conducted at 46 gasoline station workers in Makassar. The samples were selected using cluster random sampling. The data were analyzed by using chi square and multiple regression. The results indicate that the average blood lead level (33.7 µg/dl) is still in normal limit, whereas the hemoglobin level (12.9 µg/dl) decreases. The chi square analysis ($p < 0,05$) indicate that there is a correlation between the increase of lead level and decrease of hemoglobin level. Interaction with age (20-39 years), working time (≤ 8 hours/day), working duration (> 1 year), smoking habit 17 (81%) of which the Pb and Hb are abnormal, and habit to consume canned drink 16 (80%) of which the Pb and Hb are abnormal. The multiple regression analysis indicated that working duration and smoking habit have an interaction between lead level and hemoglobin level. It could be concluded that working duration and smoking habit were the highest factors contributing to increased lead concentration and to decreased hemoglobin level of the blood gasoline station workers

OT23-9

How Sand Storms Impact the Environmental and Human Health in Taiwan

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How sand storms impact the environmental and human health in Taiwan Winston Dang(1), Yu Chi Chu(2), Shuenn Chin Chang(2) (1).Taipei Medical University (2).Taiwan EPA* Abstract: Seasonal winds and high-pressure systems are moving dust with air pollutants (Lin et al., 2005), mercury and dioxin from China to Taiwan (approximately 60-70% to Korea and Japan area, 30-40% to Taiwan). With worsening desertification in China and climate change, China's dust storms are increasing in frequency and intensity. Dust storm frequency from China are have increased nine-fold since 1994, once annually in 1994 to nine times per year 2004. On the average, there are four to five dust events and 6.1 dust days in a year in Taiwan (Liu et al., 2006). On April 25, 2009 Taiwan experienced the highest PM10